

# DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS IIN-D412-742-2 REV.A OR LATER APPROVED REVISIONS AND INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA-D412-742-2 REV.0 OR LATER APPROVED REVISIONS

REF. FAA STC:SR01583SE

REF. TCCA STC: SH05-37

REF. EASA STC: EASA.IM.R.S.01126

## 1.0 PURPOSE

Wearplates D5489-041, D5489-3, and D5489-045 on D412-742-021/-023 Float Skidtube Installations have been modified @CHG 002 to improve durability. The new wearplate design features two additional tabs attached to the saddle, and narrower slots to prevent shifting.

The purpose of this Service Instruction is to provide installation instructions to install and maintain the improved design D5489-041, D5489-3, and D5489-045 Wearplates on the D412-742-021/-023 Float Skidtubes Installations @ CHG 002 or later. For customers with D412-742-021/-023 skid tubes at CHG 001, it is recommended to upgrade skid tubes to CHG 002 using the DSI 9800-011 Kit from Dart per section 2.1 of this Service Instruction.

## 2.0 INSTALLATION

### 2.1 Installation of DSI 9800-011 Wearplate Kit

**NOTE:** In corrosive environments, exposed hardware should be coated with LPS Procyon after installation.

- 2.1.1 Hoist or jack the helicopter using the procedures prescribed in the Aircraft Maintenance Manual. Disconnect/remove and retain any clamps/fittings/hoses/float bags associated with the float system that will interfere with the removal of the wearplates. If installed, remove the D412-742-028 Cable Guard per section 32.8 of ICA-D412-742-2.
- 2.1.2 Remove D5489-041, D5489-3, and D5489-045 wearplates by removing AN3 bolts, D5513-1 bushings and MS21043L3 nuts. Retain D5513-1 bushings.
- 2.1.3 Check skidtube for corrosion and mechanical damage in accordance with chapter 5.3.1 of ICA-D412-742-2 and repair as required.
- 2.1.4 Remove AN4 bolts, D5446-1 bushings and MS21043-4 nuts at saddle holes H3 and H4 as shown in Figure 1 of this Service Instruction. Retain D5446-1 bushings.

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A	NEW ISSUE	MW	18.05.17
REV.	DESCRIPTION	BY	DATE
DESIGN	MW	<b>DART AEROSPACE USA, INC</b> EUGENE, OR	
DRAWN	MW		
CHECKED	NO	DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9800	SHEET 1 OF 5
APPROVED	NO	TITLE	SCALE
DE APPR.	DS	WEARPLATE REPLACEMENT	NTS
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
- 2.1.5 Loosely attach new D5489-041, D5489-3, and D5489-045 wearplates to the skidtube as shown in Figure 2 and Figure 3 using AN3 bolts, D5513-1 bushings and MS21043-3 nuts as shown in Detail B. Ensure that nuts on the bolts are on the inboard side of the skidtube.
- 2.1.6 Loosely attach AN4C53A bolts, D5446-1 bushings and MS21043-4 nuts as shown in Detail A.
- 2.1.7 Clamp D5489-041, D5489-3, and D5489-045 wearplates firmly to the skidtube leaving no gaps.
- 2.1.8 Tighten all hardware. (Torque AN3 bolts to 15-25 in-lbs (1.7-2.8 N-m) and AN4 bolts to 50-70 in-lbs (5.7-7.9 N-m)). Verify saddle fastener torque per Section 32.2.2 of ICA-D412-742-2.
- 2.1.9 Reinstall any clamps/fittings/hoses/float bags that were removed to facilitate the wearplate replacement per applicable manufacturer's instructions.
- 2.1.10 If removed, reinstall D412-742-028 Cable Guard per Section 32.9 of ICA-D412-742-2.
- 2.1.11 Lower the aircraft using the procedures prescribed in the Aircraft Maintenance Manual.
- 2.1.12 Update aircraft weight and balance using the information provided in Section 4.0 of this Service Instruction.

## **2.2 Installation of D412-742-021/-023 Float Skidtube @ CHG 002**

Install the D412-742-021/-023 Float Skidtube per the following instructions:

- 2.2.1 Refer to IIN D412-742-2 Rev A and follow Sections 3.1.1 to 3.1.12 omitting the installation of D5489-041, D5489-3, and D5489-045 from Section 3.1.6.
- 2.2.2 Follow section 2.1.5 - 2.1.7 of this Service Instruction.
- 2.2.3 Tighten Saddle hardware per Section 3.1.13 of IIN-D412-742-2 Rev A.
- 2.2.4 Tighten Wearplate hardware per Section 2.1.8 of this Service Instruction.
- 2.2.5 Complete the installation from Section 3.1.14 - 3.1.17 of IIN-D412-742-2 Rev A.

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### 3.0 MAINTENANCE

Inspect and maintain upgraded D412-742-021/-023 Float Skid tubes per ICA-D412-742-2 Section 5. Remove and install Skid tube, Saddles, and Wearplates per the instructions provided in Section 2 of this service instruction.

**Notes:** Saddle bolts H3 and H4 are AN4C53A per Parts List in Section 5.0 of this Service Instruction.

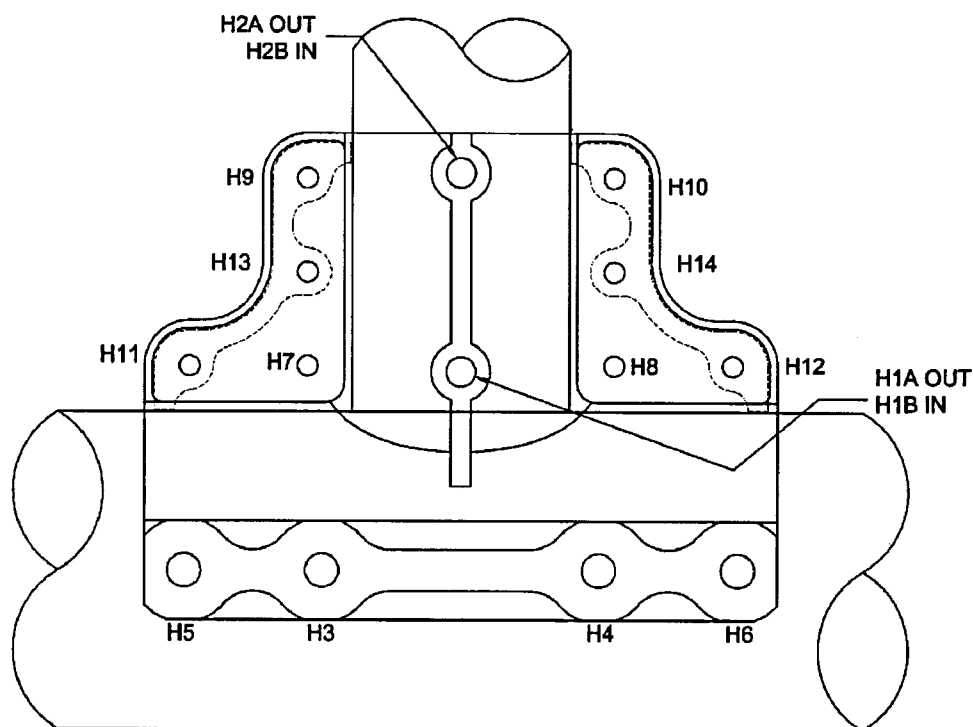
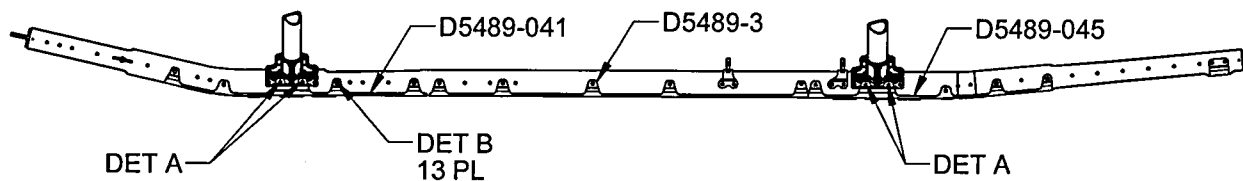


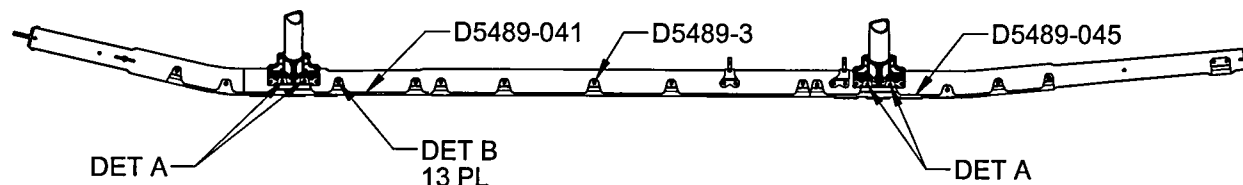
FIGURE 1 - SADDLE INSTALLATION

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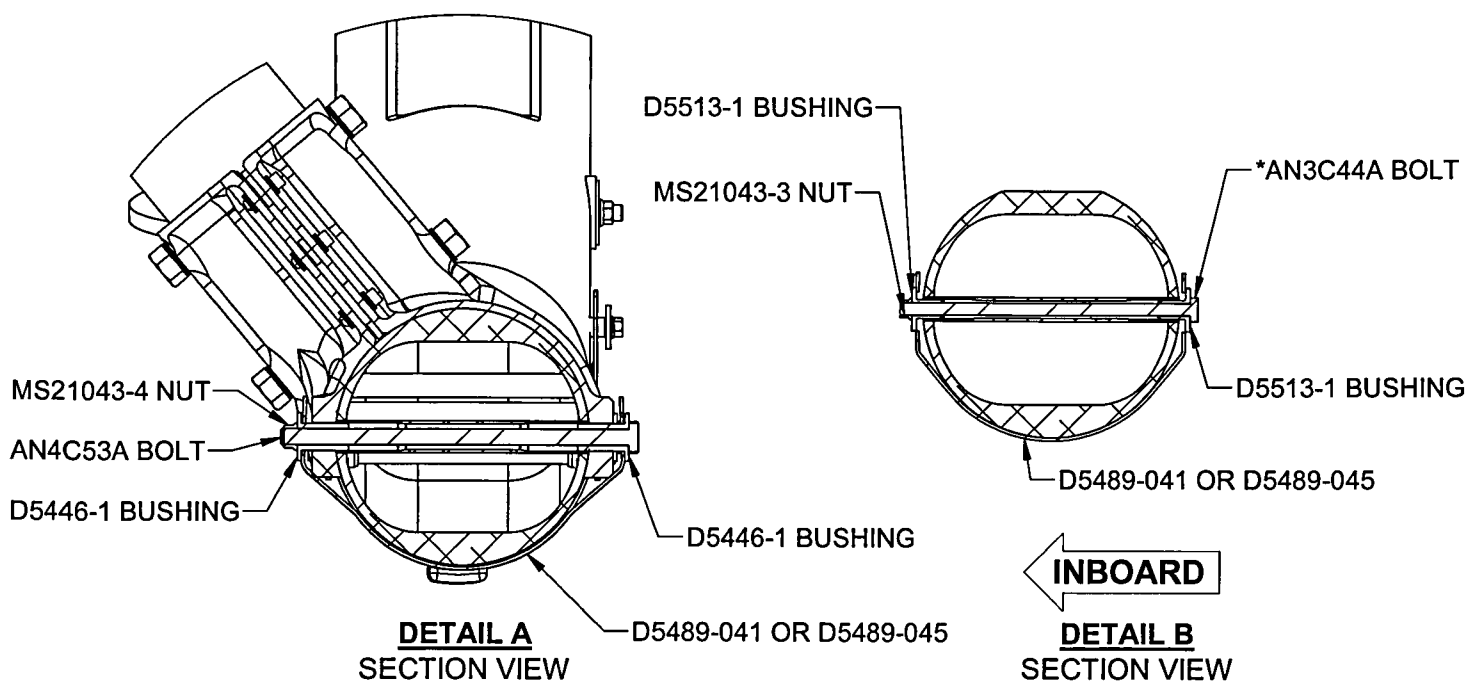
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**FIGURE 2 - D412-742-021 FLOAT SKIDTUBE INSTALLATION**  
(OEM/PMA FLOAT COMPATIBLE)



**FIGURE 3 - D412-742-023 FLOAT SKIDTUBE INSTALLATION**  
(DART TRI-BAG FLOAT COMPATIBLE)



\* USE AN3C46A BOLT WHEN ALSO SECURING THE GIRT AT THE BOLT ATTACHMENT

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## 4.0 WEIGHT AND BALANCE

When the DSI 9800-011 Wearplate Replacement Kit has been installed, the updated Weight and Balance for the D412-742-021/-023 Float Skidtubes is as follows:

Installation	Weight	LATERAL		LONGITUDINAL	
		Arm	Moment	Arm	Moment
D412-742-021	73.4 lb	+/- 55 in	+/- 4037 in-lb	124 in	9102 in-lb
FLOAT SKIDTUBE INSTALLATION @ CHG 002	33.3 kg	+/- 1.4 in	+/- 46.5 m-kgr	3.15 m	105 m-kgr
D412-742-023	72.0 lb	+/- 55 in	+/- 3960 in-lb	124 in	8928 in-lb
FLOAT SKIDTUBE INSTALLATION @ CHG 002	32.7 kg	+/- 1.4 m	+/- 45.6 m-kgr	3.15 m	103 m-kgr

## 5.0 PARTS LIST

Qty -011	Part Number	Description
X	DSI 9800-011	REPLACEMENT WEARPLATE KIT
1	D5489-041	FWD WEARPLATE ASSEMBLY
1	D5489-3	MD WEARPLATE
1	D5489-045	AFT WEARPLATE ASSEMBLY
4	AN4C53A	BOLT
13	AN3C44A	BOLT
10	AN3C46A	BOLT
20	NAS1149C0332R	WASHER
4	MS21043-4	NUT
13	MS21043-3	NUT

Update the Parts List in IIN-D412-742-2 Rev A and ICA-D412-742-2 Rev 0 as follows.

Item	Qty -021	Qty -051	Qty -055	Part Number	Description
	X			D412-742-021	FLOAT SKIDTUBE INSTALLATION
	1	X		D412-742-051	FLOAT SKIDTUBE
		1	X	D412-742-055	WEARPLATE KIT
38	8			AN4C52A	BOLT
38a	4			AN4C52A	BOLT
38b	4			AN4C53A	BOLT

← DELETE

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Item	Qty -023	Qty -053	Part Number	Description
	X		D412-742-023	FLOAT SKIDTUBE INSTALLATION
	1	X	D412-742-053	FLOAT SKIDTUBE
		1	D412-742-055	WEARPLATE KIT
38	8		AN4C52A	BOLT
38a	4		AN4C52A	BOLT
38b	4		AN4C53A	BOLT

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DSI 9800 SHEET 5 OF 5

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